

## Hamilton County

### Estimated Economic Impact of Agriculture, Food, and Food Processing Sectors

10/3/14

9 agriculture, food, and food processing sectors were analyzed to determine their overall contribution to the Hamilton County economy.<sup>1</sup>

These 9 sectors have a total direct output of approximately \$307 million and support 790.2 jobs in Hamilton County. Running the model for all 9 sectors simultaneously produces the following results:

| Agriculture Contribution in Hamilton Co |            |              |                                |  |                     |                             |
|---|------------|--------------|--------------------------------|--|---------------------|-----------------------------|
| Impact Type <sup>2</sup>                | Employment | % Employment | Total Value Added <sup>3</sup> | % of Gross Regional Product <sup>4</sup> | Output <sup>5</sup> | % of Gross Regional Product |
| Direct Effect                           | 790.2      | 40%          | 97,732,580.5                   | 57%                                      | 307,210,544.6       | 179%                        |
| Indirect Effect                         | 119.3      | 6%           | 14,107,363.1                   | 8%                                       | 23,124,566.8        | 13%                         |
| Induced Effect                          | 118.1      | 6%           | 9,090,802.7                    | 5%                                       | 14,246,707.0        | 8%                          |
| Total Effect                            | 1,027.6    | 52%          | 120,930,746.3                  | 71%                                      | 344,581,818.3       | 201%                        |

As shown in the above table, agriculture, food, and food processing supports 1,027.6 jobs, or 52% of the entire workforce in the county. These industries provide a total economic contribution of approximately \$345 million, roughly 201% of Gross Region Product (GRP). As noted below in the calculation of Gross Regional Product, imports and institutional sales are subtracted. Therefore, counties that import a relatively large amount of goods and services will have a reduced GRP which may lead to agricultural output being greater than GRP.

Another metric used to calculate the importance of sectors in an economy is their value added as a percentage of GRP. Total value added by the 9 agriculture, food, and food processing sectors is approximately \$121 million, or 71% of the GRP. This indicates that personal income, business income, and taxes generated by these sectors account for 71% of the total economy.

<sup>1</sup> Article on building a contribution analysis in IMPLAN that avoids double counting:

[http://www.implan.com/index.php?option=com\\_content&view=article&id=660%3A660&catid=253%3AKB33&Itemid=70](http://www.implan.com/index.php?option=com_content&view=article&id=660%3A660&catid=253%3AKB33&Itemid=70)

<sup>2</sup> Direct, indirect, and induced effects sum together to estimate the total economic contribution in the state. **Direct effects** capture the contribution from agricultural and food products. **Indirect effects** capture the economic benefit from farms and agricultural businesses purchasing inputs from supporting industries within the state. **Induced effects** capture the benefits created when employees of farms, agricultural businesses, and the supporting industries spend their wages on goods and services within the state.

<sup>3</sup> Value added = labor income + indirect business taxes + other property type income.

<sup>4</sup> GRP = final demand of households + governments expenditures + capital + exports - imports - institutional sales.

<sup>5</sup> Output = intermediate inputs + value added.

The following tables document the overall summary numbers of the model, top industries affected by employment and output, and a listing of all industries that were analyzed.

In the top ten by employment, Grain farming is the top employer in the agriculture industry with 307.1 employees. This table also shows the amount of jobs that are created by the agriculture industry in Hamilton County.

| Description  | Total Employment | Total Output  |
|--|------------------|---------------|
| Grain farming  | 307.1            | 69,922,233.3  |
| Dairy cattle and milk production                                     | 173.1            | 137,287,411.1 |
| Support activities for agriculture and forestry                      | 146.8            | 830,864.1     |
| Cattle ranching and farming  | 135.5            | 83,092,769.9  |
| Monetary authorities and depository credit intermediation activities | 41.2             | 13,782,600.5  |
| Wholesale trade businesses   | 35.6             | 5,900,462.2   |
| Animal (except poultry) slaughtering, rendering, and processing      | 14.1             | 4,569,548.1   |
| Civic, social, professional, and similar organizations               | 12.0             | 336,526.8     |
| Securities, commodity contracts, investments, and related activities | 11.5             | 1,435,477.5   |
| Other state and local government enterprises                         | 9.9              | 1,675,132.4   |

The Dairy cattle and milk production industry directly contributes approximately \$137 million to Hamilton County's economy. This table also shows how much revenue is generated in other industries by having a strong agriculture industry.

| Description  | Total Employment | Total Output  |
|--|------------------|---------------|
| Dairy cattle and milk production                                     | 173.1            | 137,287,411.1 |
| Cattle ranching and farming  | 135.5            | 83,092,769.9  |
| Grain farming  | 307.1            | 69,922,233.3  |
| Monetary authorities and depository credit intermediation activities | 41.2             | 13,782,600.5  |
| All other crop farming   | 5.3              | 7,528,947.1   |
| Wholesale trade businesses   | 35.6             | 5,900,462.2   |
| Imputed rental activity for owner-occupied dwellings                 | 0.0              | 4,786,245.7   |
| Animal (except poultry) slaughtering, rendering, and processing      | 14.1             | 4,569,548.1   |
| Oilseed farming  | 5.1              | 3,227,088.0   |
| Other state and local government enterprises                         | 9.9              | 1,675,132.4   |

Below is a summary of all agriculture data with employment levels and output level. These values can tell how many jobs are represented by each agriculture sector and the output they contributed to Hamilton County's economy.

[illegible]

All 105 counties in Kansas have Implan models and agriculture contribution summary. These values do not factor in the retail environment of food sales. Food retail is important, but in order to provide the most accurate picture of what production agricultural and processing contributes to Kansas, the retail sector was omitted.